



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,677	10/07/2003	Robert A. Krol	2030874-0004	5432
53312	7590	12/22/2005	EXAMINER	
MCGUIREWOODS LLP c/o LUKE ANDERSON 1170 PEACHTREE STREET, NE SUITE 2100, THE PROSCENIUM ATLANTA, GA 30309			LEE, JINHEE J	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/680,677	KROL ET AL. <i>PM</i>	
	Examiner	Art Unit	
	Jinhee J. Lee	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 December 2005.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-18, 20 and 21 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-18, 20 and 21 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe et al. (5648132).

Re claim 1, Abe et al. discloses a bushing comprising: a core (2 for example); a flange (on 32 for example) securely fastened to said core; and a housing (5 for example) permanently fastened directly to said core; wherein said housing is cast in one single unitary piece (see figures 1a and 7 and abstract).

Re claim 2, Abe et al. discloses a bushing wherein: said housing having a top end and bottom end (see figures 1a and 7), and is permanently fastened directly to said core (molded, see abstract), continuously from the top of said housing to the bottom of said housing (see figures 1a and 7).

Re claim 3, Abe et al. discloses a bushing wherein: said housing is comprised of silicone-rubber (see column 4 lines 1-2).

Re claim 10, Abe et al. discloses a bushing comprising: a core (2); a flange (on 32 for example) adapted for receiving said core, where said flange is permanently bonded to said core (see figures 1a and 7); and a housing directly bonded to said core (see abstract).

Re claim 11, Abe et al. discloses a bushing wherein: said housing having a top end and a bottom end, and is permanently molded to said core (see figures 1a and 7).

Re claim 12, Abe et al. discloses a bushing wherein: said housing is a rubber housing (see column 4 lines 1-2).

Re claim 13, Abe et al. discloses a bushing wherein: said housing is comprised of silicone-rubber (see column 4 lines 1-2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 4, 5, 6, 14, 15, 18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. in view of Felix (3250850).

Re claim 4, Abe et al. discloses a bushing as set forth in claim 1 above. Abe et al. does not explicitly disclose that said core consists of a stud with resin-impregnated paper-foil matrix wound around said stud for increased capacitance-grading. However, Felix teaches of a bushing wherein: said core consists of a stud (conductor 1) with resin-impregnated paper-foil matrix (including 2,3, and 4, see claim 17 for example) wound around said stud to provide laminated body. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the resin-impregnated paper-foil matrix wound around the stud core as taught by Felix on the bushing of Abe et al. in order to provide laminated body.

Re claim 5, note that Felix teaches of said resin-impregnated paper-foil matrix further comprising a plurality of crepe paper and foil matrix layers wound around said stud (see claim 17 for example); and an epoxy resin encapsulating said plurality of paper and foil matrix layers (see claim 17 for example).

Re claim 6, note that the device of Felix teaches of a foil matrix selected from a group consisting of a metal, a conductive ink, or a conductive element paper (metal foil, see claim 17).

Re claim 14, Abe et al. discloses a bushing as set forth in claim 10 above. Abe et al. does not explicitly disclose that said core comprised of a stud around which a plurality of resin impregnated crepe paper and foil matrix layers are wound. However, Felix teaches of said core comprised of a stud around which a plurality of resin impregnated crepe paper and foil matrix layers are wound, (see claim 17 for example). It would have been obvious to one having ordinary skill in the art at the time the

invention was made to use the core comprised of a stud around which a plurality of resin impregnated crepe paper and foil matrix layers are wound as taught by Felix on the bushing of Abe et al. in order to provide laminated body.

Re claim 15, note that Felix discloses a bushing wherein: a foil matrix is selected from a group consisting of a metal, a conductive ink, or a conductive element paper (see claim 17 for example).

Re claim 18, Abe et al. discloses a bushing comprising: a core (2) for conducting and insulating electricity a flange (on 32 for example) securely fastened to said core; and a silicone-rubber housing of unitary construction, having a top and a bottom end; said silicon-rubber housing being permanently bonded directly to said core continuously from the top of said housing to the bottom of said housing; Wherein said housing is cast in one single unitary piece (see figures 1a and 7). Abe et al. does not explicitly disclose the core comprising a stud and a plurality of crepe paper and foil matrix layers wound around said stud and impregnated with epoxy resin. However, Felix teaches of a core comprising a stud (1) and a plurality of crepe paper and foil matrix layers (2, 3, 4 for example) wound around said stud and impregnated with epoxy resin (see claim 17 for example). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the core comprising a stud and a plurality of crepe paper and foil matrix layers wound around said stud and impregnated with epoxy resin as taught by Felix on the bushing of Abe et al. in order to provide laminated body.

Re claim 20, Abe et al. modified by Felix discloses the claimed invention except that the housing is cast from a free-flowing, fast curing, liquid silicone rubber. Examiner

takes official notice that this type of rubber such as Wacker Chemie, GmbH's Powersil ® 600 is a known material (as disclosed and admitted by the applicant) for use in the electrical applications. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the free-flowing, fast curing, liquid silicone rubber, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Re claim 21, note that Abe et al. discloses a draw lead terminal (fitting 32 for example) attached to the top end of said housing.

6. Claims 7, 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. in view of Cushing et al. (4123618).

Re claim 7, Abe et al. discloses a bushing for conducting electricity as set forth in claim 1 above. Abe et al. does not explicitly disclose the power factor test tap on the flange, and power factor test tap connected to core by an electrical wire. However, Cushing et al. teaches of a flange with a power factor test tap (see column 10 lines 32-36), and power factor test tap connected to core by an electrical wire (conducting stud 80 for example). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the power factor test tap connected to core by wire of Cushing et al. on the flange of Abe et al. in order to make power factor test.

Re claim 9, Abe et al. discloses an apparatus bushing as set forth in claim 1 above. Abe et al. does not explicitly disclose the power factor test tap on the flange, and power factor test tap connected to core by an electrical wire. However, Cushing et

al. teaches of a flange with a power factor test tap (see column 10 lines 32-36), and power factor test tap connected to core by an electrical wire (conducting stud 80 for example). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the power factor test tap connected to core by wire of Cushing et al. on the flange of Abe et al. in order to make power factor test.

Re claim 17, Abe et al. discloses an apparatus bushing as set forth in claim 10 above. Abe et al. does not explicitly disclose the power factor test tap on the flange, and power factor test tap connected to core by an electrical wire. However, Cushing et al. teaches of a flange with a power factor test tap (see column 10 lines 32-36), and power factor test tap connected to core by an electrical wire (conducting stud 80 for example). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the power factor test tap connected to core by wire of Cushing et al. on the flange of Abe et al. in order to make power factor test.

7. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. in view of Novel et al. (5220134).

Re claim 8, Abe et al. discloses a bushing as set forth in claim 1 above. Abe et al. does not explicitly disclose wherein said core has at least one recess for physically-mechanically attaching said housing to said core. However, Novel et al. teaches of a core having at least one recess (17 notches) for physically-mechanically attaching a housing to the core (see column 4 lines 6-8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the at least one recess

for physically-mechanically attached a housing to a core as taught by Novel et al. on the device of Abe et al. in order to make to provide a positive mechanical link.

Re claim 16, Abe et al. discloses a bushing as set forth in claim 10 above. Abe et al. does not explicitly disclose wherein said core has at least one recess for physically-mechanically attaching said housing to said core. However, Novel et al. teaches of a core having at least one recess (17 notches) for physically-mechanically attaching a housing to the core (see column 4 lines 6-8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the at least one recess for physically-mechanically attached a housing to a core as taught by Novel et al. on the device of Abe et al. in order to make to provide a positive mechanical link.

Response to Arguments

8. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 2831

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee J. Lee whose telephone number is 571-272-1977. The examiner can normally be reached on M, T, Th and F at 6:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jinhee J Lee
Patent Examiner
Art Unit 2831

jjl

